JANUARY 2022

Instructional Practices for Effective Large-Scale Reading Interventions

FINDINGS FROM THE **LEARNING AT SCALE STUDY*** **BRIEF 1** IN A SERIES

Introduction and Background

Learning outcomes are low and instruction is poor in many low- and middle-income countries (LMICs). These shortcomings are particularly concerning given the substantial learning loss due to COVID-19 from which many education systems are suffering.

The Learning at Scale study aimed to investigate factors contributing to successful improvements in learning outcomes at scale in eight of the most effective large-scale education programs in LMICs (see the map of programs on the last page of this brief). These programs were selected based on their demonstrated gains in reading outcomes at-scale, from either midline or endline impact evaluations. The study addressed three overarching research questions, focused on understanding the components of instructional practices (**Brief 1)**, instructional supports (**Brief 2)**, and system supports (**Brief 3**) that lead to effective instruction.

This brief focuses specifically on instructional practices. It addresses the following research question:

What classroom ingredients (e.g., teaching practices, classroom environment) lead to learning in programs that are effective at scale?

DATA AND METHODS

All data collection activities for this study were planned to be completed by September 2020. However, our planned data collection activities for five programs were put on hold due to the COVID-19 pandemic.

The findings throughout this brief came from two main sources of data. The first source was descriptions of implementation approaches for all eight programs, obtained from program documentation and interviews with program leaders. The second was in-country primary data collected through grade 2 classroom observations of reading lessons, as well as interviews with teachers, head teachers, coaches, and teacher meeting facilitators. We completed data collection activities for three programs prior to March 2020: Education Quality Improvement Program in Tanzania (EQUIP-T), Scaling-up Early Reading Intervention (SERI), and Tusome.

* This brief highlights findings from the full Learning at Scale: Interim Report. For background information on the study, please see page 13.

Quantitative data were collected by assessors using structured questionnaires rendered on tablets using Tangerine software. For each program, data were collected in 60 treatment schools and 30 comparison schools (as appropriate[1]). The samples were not designed to be representative of the entire program but instead were drawn to include schools from high- and low-performing districts. Qualitative interviews of between 15 and 20 key stakeholders were conducted by Learning at Scale team members for each program, with an interpreter assisting where necessary. Interviews were guided by a structured questionnaire that aimed to elicit evidence for and against study hypotheses.

Key Findings

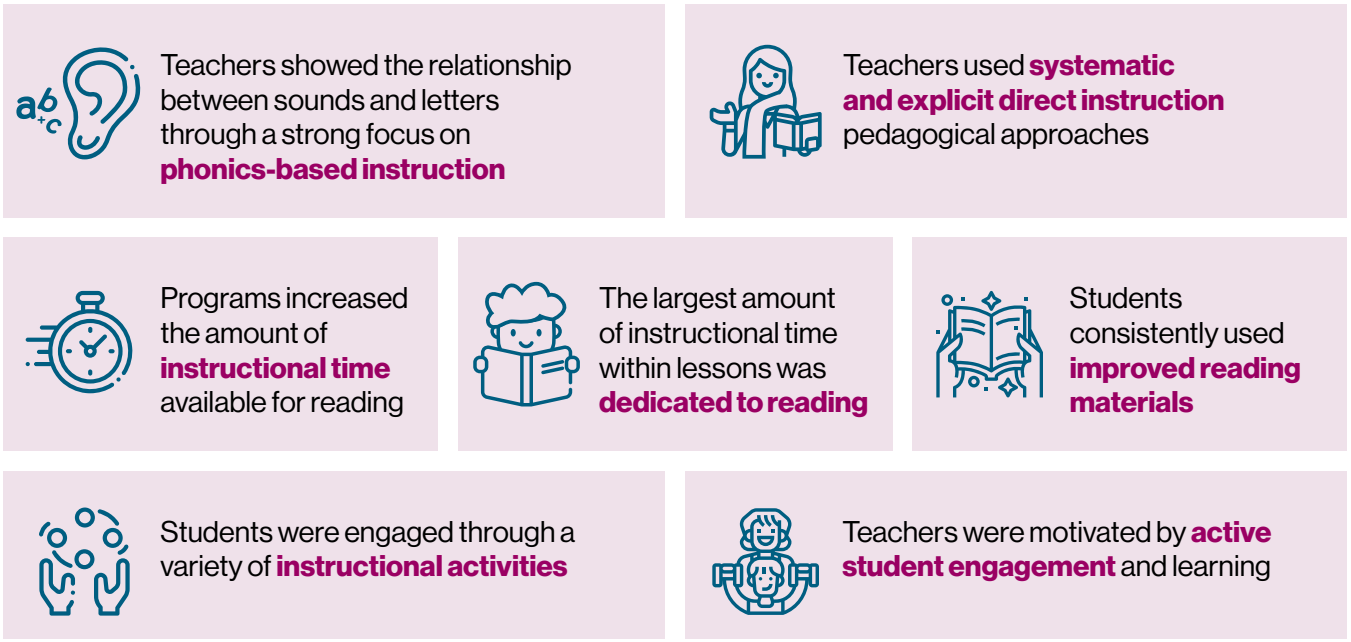
Improving learning outcomes at scale requires better teaching than is typically the case.

This brief, drawn from preliminary findings from the Learning at Scale study, describes how eight effective, large-scale instructional improvement interventions changed teacher practice in the classroom (see final page of this brief for a list of selected programs). Our analysis suggests substantial commonalities in how teacher practices should be structured to maximize program success. Seven essential characteristics of teacher support were identified in our findings, drawn from descriptive survey analyses as well as from primary quantitative and qualitative data collections (**Figure 1**).

> ***"[There has been a] positive impact. Teaching the children on reading, I know that the child is supposed to know the sounds of the letters first so the child can blend the sounds of the word. In 'look and say,' they used to just say 'cup,' but now the child knows the sounds."***
>
> —Teacher, Tusome (Kenya)

FIGURE 1

Essential characteristics of teacher practice



1 Some programs were unable to identify appropriate comparison schools. For example, Tusome had no available control schools because it is a national-scale program. Only treatment data are reported in these briefs. Full explanations of treatment and control data are included in the Interim Report.

Through structured program interviews, programs most consistently reported the following three areas as essential teacher practices in their work:

1. **Inclusion of a strong focus on phonics in the classroom**. Whole language is a method for teaching reading by recognizing words as whole units of language and relies on encountering them in meaningful contexts. Prior to the implementation of these programs, many countries typically used whole language approaches to reading instruction. Teachers in these successful programs were able to show their students the relationship between sounds and letters and develop the basic building blocks for reading by focusing on a phonics-based approach, instead of teaching reading at the word level.

2. **Increased instructional time for reading**. Half of the programs noted that a key to their success was increasing the amount of instructional time in the weekly timetable that is dedicated to reading lessons. With demanding curricular pace and learning expectations, increasing instructional time available for reading provided teachers in these programs with the ability to focus on basic reading skills and allow students greater opportunities to engage with text.

3. **Teachers used direct instruction pedagogical approaches**. Seven of the eight programs in this study used a direct instruction model for teaching. This approach was used to support instruction that explicitly teaches skills systematically (in many cases through structured teacher's guides). In six of the eight programs, teachers followed the gradual release model (i.e. "I do, we do, you do") throughout their lessons.

Four additional key characteristics identified by our primary data collection findings were:

4. **Reading as the main instructional focus during class**. Teachers in all three programs with classroom observation data collected through this study, spent the most time in their reading lessons explicitly teaching reading. While there was variation in the instructional focus areas for the remainder of class time, the large focus specifically on reading is essential for providing students with sufficient opportunities to build their confidence and skills in reading words and connected text.

5. **Students used written materials throughout the lesson**. Without the use of written materials, it is difficult for students to genuinely engage in reading activities and instruction. Teachers in all three programs with classroom observation data spent the majority of time using books or other written materials in the classroom. Teachers also noted that the materials used in these programs were of higher quality and more engaging for students than those used previously. This increased time using improved print was essential for engaging students and providing sufficient reading opportunities in class.

6. **Teachers engaged students in a variety of instructional activities**. Throughout their lessons, students were engaged in a range of different instructional activities, such as reading, writing, listening and oral response. While the majority of instructional time was focused at the whole class level, programs also used varying amount of time for small group and individual work. This type of variation is important for keeping students continually engaged throughout the lesson.

7. **Teachers were motivated by the learning and engagement of their students**. Teachers in several programs noted that they were motivated by the fact that they saw their students more actively engaged in the classroom and were able to recognize their improvements in reading ability. It is not easy to ask more (or something new) of teachers. However, by providing them with approaches and tools that actively engage students and improve their learning, teachers appear to be more motivated to continue using the new approaches.

The design and implementation of instructional practices differed among these eight programs participating in the Learning at Scale study, yet these key findings were essential to understanding how instruction improved.

High-Level Findings Across Programs

In this section, we describe the design and implementation approaches of these effective large-scale programs. We address two questions: what program design elements were included in each of the eight programs, and which of these elements did the programs themselves deem to be key to their success? We identified all of the elements in each program and then asked each program to identify up to three elements per domain that were key to their program's success.

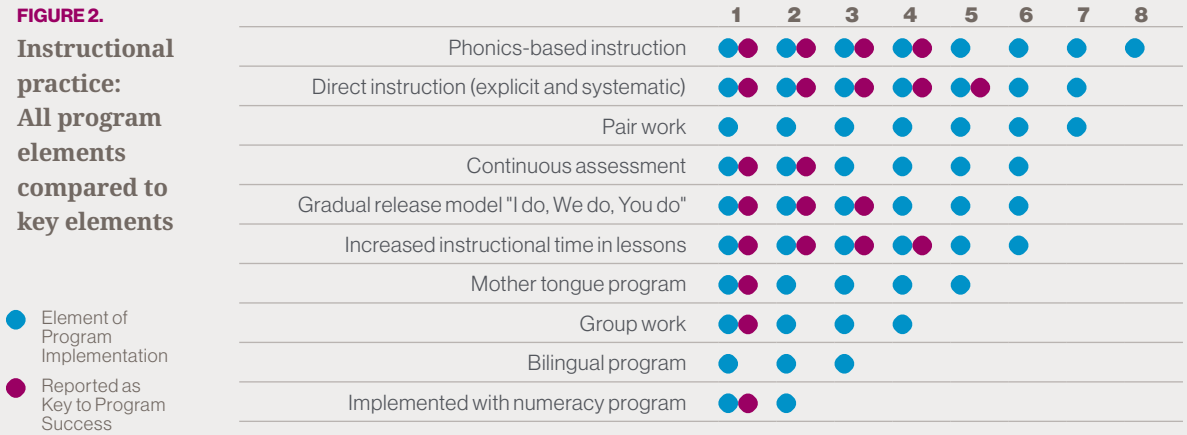
Results in this instructional practice brief focus explicitly on pedagogical considerations in the classroom. It is important, however, to consider them in conjunction with the findings from Brief 2 on instructional support (which includes related areas such as materials, training, and teacher support).

KEY HIGH-LEVEL TAKEAWAYS

We found that all eight programs included a phonics-based approach in their reading instruction (**Figure 2**). This finding is worth emphasizing given that before the program, countries typically taught a language subject that focused on vocabulary, grammar, and reading of connected text rather than the letters, sounds, and word-reading elements that would be the focus of a phonics approach. Most programs (seven) used a direction instruction approach, and six programs used the gradual-release model commonly called "I do, we do, you do." Both of these approaches are complementary to the phonics instructional approach and seek to teach students discreet skills, explicitly and systematically, to increase learning outcomes. Pair work was a part of seven programs, six programs increased instructional time, and another six cited continuous assessment as part of their intervention.

Only three of these elements, however, were considered keys to success across several programs. Five programs noted that direct instruction was key to program success, while four programs cited phonics-based instruction, and another four cited the increased instructional time as key.

FIGURE 2.
Instructional practice: All program elements compared to key elements



Furthermore, six USAID-funded programs (Lecture Pour Tous, Ghana Learning, Northern Education Initiative Plus [NEI Plus], Pakistan Reading Project [PRP], SERI, and Tusome) were similar in design and in the program elements deemed most important for program success. On the other hand, we found that two programs (EQUIP-T and Read India) had designs that were somewhat different, suggesting that there are other pathways to success at scale than those used by the six programs with similar designs

Quantitative Results (EQUIP-T, SERI, and Tusome)

This section presents analyses of data from the three programs whose Learning at Scale data collection was completed before the pandemic: EQUIP-T, SERI, and Tusome.

QUANTITATIVE RESULTS FROM STRUCTURED TEACHER INTERVIEWS

Teachers in both SERI and Tusome classrooms reported that the specific focus on phonics (e.g., letters, sounds, blending) had the biggest impact on student learning, as shown in **Table 1**. In EQUIP-T classrooms, 39% of teachers felt that the overall new methodology or instructional approach was the most important factor for change.

TABLE 1.
Instruction-related factors, as reported by teachers, for improved student performance, by program

What part of your instruction has had the biggest impact on student learning? (Select only one)	Tusome	EQUIP-T	SERI
More focus on letters, sounds, and/or blending	51%	25%	58%
More student centered and/or less lecture	14%	7%	3%
More pair and/or group work	7%	10%	10%
New methodology and/or instructional approach	27%	39%	9%
Involves more materials and/or activities	12%	12%	10%
Other	0	7%	0

Additionally, more than two-thirds of teachers in all three programs noted that their current instruction dedicated more energy than previous approaches on letters, sounds, and blending and that they were using a new methodology or instructional approach in the classroom (relative to what they were doing before the program), as shown in **Table 2**.

TABLE 2.
Instructional differences between their program and activities prior to the program, as reported by teachers

Is [program] instruction different from what you were doing before the program? (If yes, how?) (Mark all that apply)	Tusome	EQUIP-T	SERI
No difference	0	2%	2%
More focus on letters, sounds, and/or blending	76%	68%	83%
More student centered and/or less lecture	41%	56%	63%
More pair and/or group work	15%	41%	64%
New methodology and/or instructional approach	75%	68%	71%
Involves more materials and/or activities	17%	41%	56%
Other	9%	10%	0

The remainder of this section offers insights into the instructional practices in program classrooms, as measured by observations of reading lessons

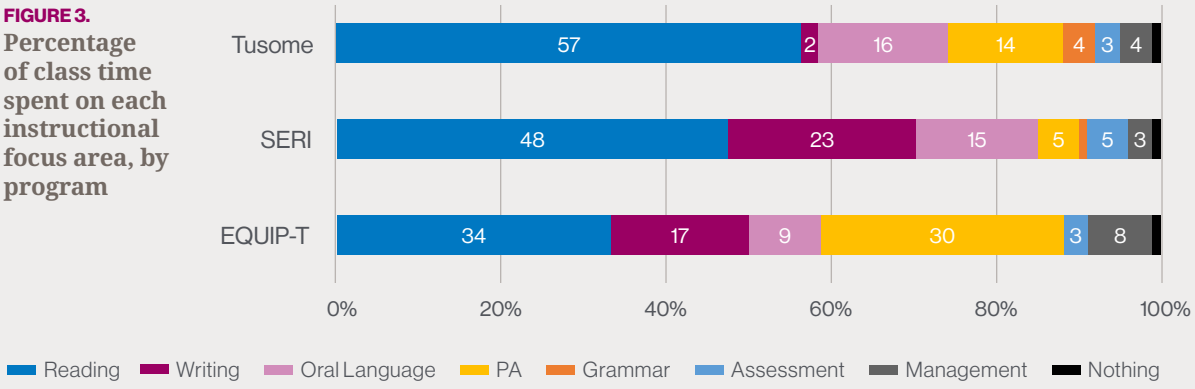
CLASSROOM OBSERVATION FINDINGS

We designed the classroom observations for this study to better understand the teacher practices that led to effective gains in student performance for the selected programs. Each observation was timed, and we calculated the percentage of time during the observed reading lesson that the teachers and students spent on a range of activities. First, we examined the instructional focus area—that is, the teacher's instructional goal at the time of observation.

INSTRUCTIONAL FOCUS

As shown in **Figure 3**, during their reading lessons, teachers in all three programs spent the most time on teaching reading (ranging from 34% in EQUIP-T to 57% in Tusome). However, whereas Tusome teachers focused most of the remainder of their time predominantly on oral language and phonological awareness (PA), SERI and EQUIP-T supplemented these activities with a considerable amount of time for writing activities.

FIGURE 3.
Percentage of class time spent on each instructional focus area, by program

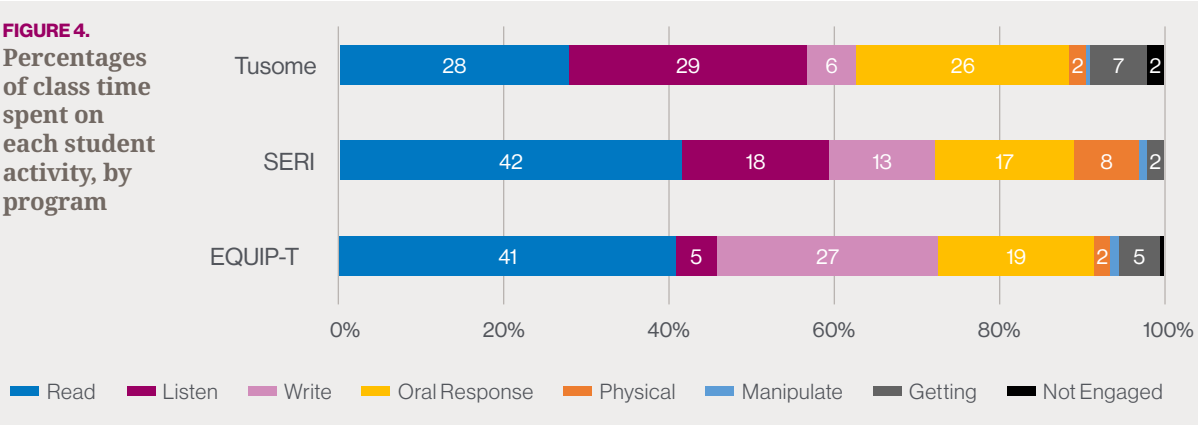


PA = phonological awareness. No label is included if 1% or less.

INSTRUCTIONAL ACTIVITY

In SERI and EQUIP-T classrooms, students spent the largest proportion of time engaged in reading text, while students in Tusome classes actually spent nearly equal time listening (29%), as compared with reading text (28%), as shown in **Figure 4**. In contrast, EQUIP-T students spent substantially more time engaged in writing than those in Tusome or SERI classrooms. All three programs showed variation in the types of student activities engaged in throughout the lesson.

FIGURE 4.
Percentages of class time spent on each student activity, by program

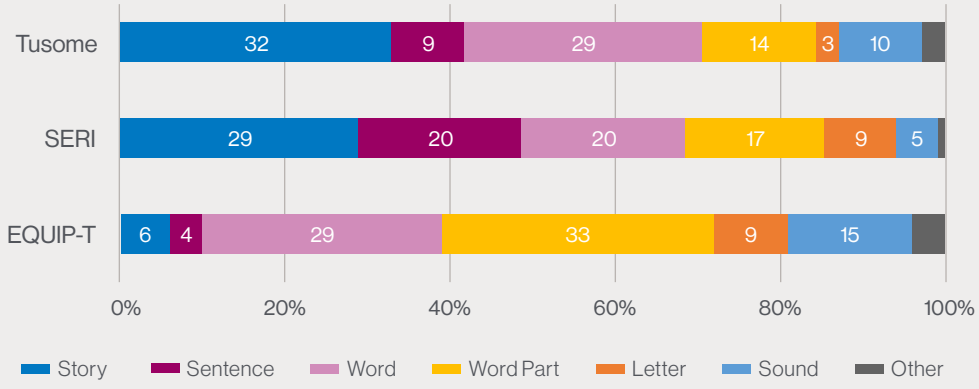


No label is included if 1% or less.

INSTRUCTIONAL LANGUAGE PART

In terms of the unit of language being taught, SERI and Tusome teachers followed similar approaches, with approximately 70% of their time dedicated to words, sentences, or story reading and smaller percentages of time on word parts, letters, and sounds, as shown in **Figure 5.** In contrast, EQUIP-T teachers focused only 10% of the time on connected text, and more than half of the class time was spent on the building blocks of word parts, letters, and sounds. Although these building blocks may be related to system-level performance and expectations of grade 2 learners, it is interesting to note that some programs focused heavily on connected text, while others spent more time on phonics (at the same point in the school year).

FIGURE 5.
Percentages of class time spent on language parts, by program

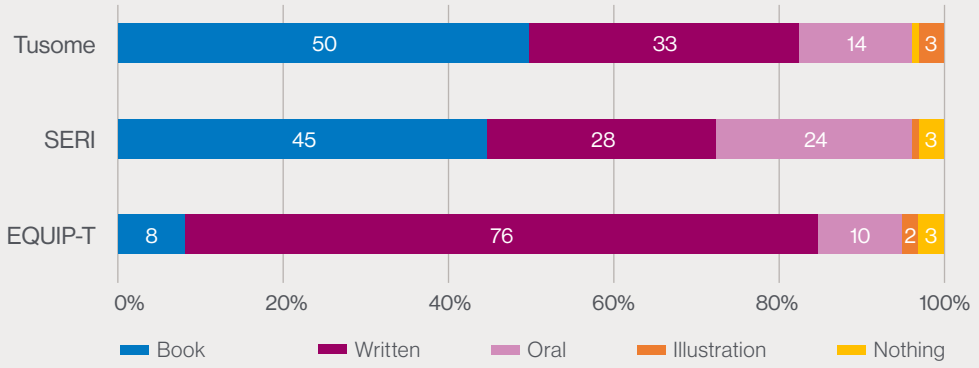


No label is included if 1% or less.

INSTRUCTIONAL MATERIALS

We observed the materials teachers used during instruction. Teachers in all three programs spent the majority of time (from 73% in SERI to 84% in EQUIP-T) using books or other written materials (e.g., chalkboard, letter cards), as shown in **Figure 6**. The proportion of time spent using books was relatively higher in SERI (45%) and Tusome (50%) than for EQUIP-T (8%)—which was directly related to the availability of books in program classrooms. The most important finding is the minimal proportion of time spent using no materials (which was more commonly found in control schools).

FIGURE 6.
Percentages of class time spent using each material type, by program

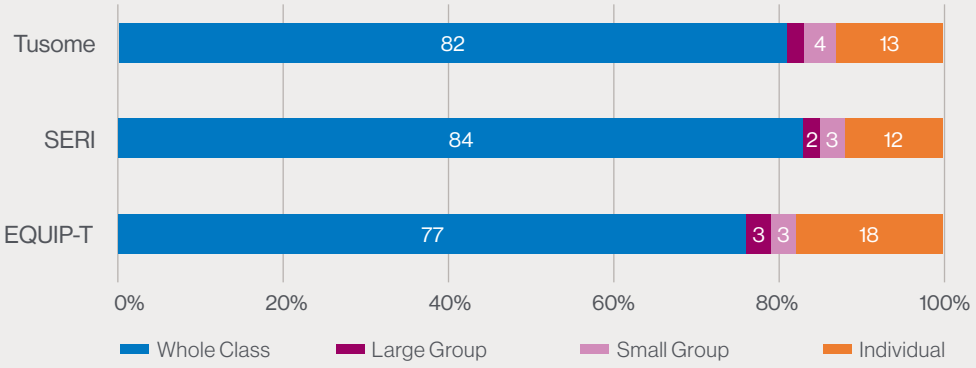


No label is included if 1% or less.

FOCUS OF STUDENT RESPONSE

In all three programs, most of the actual class time recorded during classroom observations was spent on activities involving the whole class (as opposed to group or individual work), as shown in **Figure 7**. Group work made up the smallest percentage of time, with less than 5% in any of the programs, despite the fact that between 15% and 64% of teachers reported that they use more pair or group work now than they did prior to the program (results not shown here). This finding suggests that programs can be effective when primarily utilizing whole-class instruction, if done well.

FIGURE 7.
Percentages of class time dedicated to various class response types, by program



No label is included if 1% or less.

Qualitative Results (EQUIP-T, SERI, and Tusome)

As noted above, we examined instructional practice using structured qualitative interviews with teachers, head teachers, coaches, meeting facilitators, trainers, and district officials for the same three programs: EQUIP-T in Tanzania, SERI in India, and Tusome in Kenya.

Changes in instructional practice for these three programs consisted of using methods that more actively involved the students. The shift of focus from the teacher to the students gave children a chance to practice the new skills and demonstrate their proficiency. In all three programs, instruction included attention to showing students the relationship between sounds and letters in a way that supported their ability to read words and increasingly complex text. Critical to these programs were learning materials that made it easier for teachers to engage the students.

STUDENTS WERE MORE ACTIVE IN THEIR LEARNING

One change in instructional practice across the three programs was drawing in students as active participants in learning. Many reported that the prior methods were teacher-centered, while the "I do, we do, you do" model helped shift the focus to the student (see **Quote 1**). Teachers explained that they and their students required an acclimation period for the model because it was unfamiliar at first (see **Quote 2**).

QUOTE 1.
Involve the child

"In the past, the teacher only had 'I do' and there was no 'we do' or 'you do.' Now it is helping students to learn better. It was not very child-centered but now the child is fully involved. It is better."

—Teacher, Tusome

QUOTE 2.
I do, we do, you do

"The I do, we do, you do is the best part. Kids just know this now. The kids get to learn from the you do. They are uncomfortable at first with the you do. They get used to it. When I first went to the training I was uncomfortable, then I became comfortable."

—Teacher, SERI

Programs were noted for other ways in which they increased student participation in learning activities. In the EQUIP-T program schools, there was more student interaction because, among other things, teachers used the "question-and-answer method" and learned other ways to engage students beyond the status quo **(see Quotes 3 and 4).**

QUOTE 3.
Students talk

"It's not just me talking. Students are talking and doing things, too."

—Teacher, EQUIP-T

QUOTE 4.
New ways to engage

"Many teachers have skills on how to prepare students. The training helped them learn different methods to teach students: Group work, teaching through singing, drawing, picture codes; students have been engaged in a practical work rather than just writing. For example, to compare between things and numbers."

—Head Teacher, EQUIP-T

Teachers and trainers in SERI and Tusome also described greater involvement of students and the effects that the increased engagement had on students' confidence (see **Quote 5)** and their role in the class (see **Quote 6**).

QUOTE 5.
Student confidence

"Before, it was mostly teacher-centered. But now we find that learners are involved and there was a lot of self-efficacy as when they are able to go to the blackboard and you feel 'wow'."

—Teacher, Tusome

QUOTE 6.
Students feel important

"Students say their own thoughts. They look like they are important in the class. It shows how important you (a student) are to the class. When you are sharing your thoughts to everyone, that develops a feeling that you are important to the class. When the student sees the teacher giving the importance to everyone equally, the participation increases."

—Trainer, SERI

INSTRUCTION SHOWED STUDENTS THE RELATIONSHIP BETWEEN SOUNDS AND LETTERS

One of the most valuable skills that teachers across SERI, EQUIP-T, and Tusome developed was using sounds to build students' reading skills. Teaching letter–sound relationships had not been the focus of instruction previously and the approach helped students advance. Teachers saw how it differed from the previous methods (see **Quote 7**) and how it applied for teaching reading to anyone, even outside their classroom (see **Quote 8)**.

QUOTE 7.
Comparison to prior methods

"[There has been a] positive impact. Teaching the children on reading, I know that the child is supposed to know the sounds of the letters first so the child can blend the sounds of the word. In 'look and say,' they used to just say 'cup,' but now the child knows the sounds."

—Teacher, Tusome

QUOTE 8.
Transferring the instructional methods

"If someone knows the grid they can read anything. It is good for anybody. I have a neighbor …. She is 50 years old. I taught her to read with the grid."

—Teacher, SERI

TEACHERS MONITORED PROGRESS AND ADJUSTED THEIR INSTRUCTION ACCORDINGLY

Because of the increased student activity described earlier, teachers now could monitor student progress (see **Quote 9**) and adjust instruction to meet student needs (see **Quote 10**).

QUOTE 9.
Reading supports writing

"It is based on sounds. So, because of that, even writing gets easier. First, they learn the sounds, then they learn the writing part."

—Teacher, SERI

QUOTE 10.
Increased persistence

"I am getting…more keen on the children [and] their response. If children cannot pronounce, I get to know and I call the children later. And [it] makes me understand children better."

—Teacher, Tusome

TEACHERS WERE MOTIVATED BECAUSE THEY COULD SEE HOW INSTRUCTION LED TO POSITIVE STUDENT LEARNING OUTCOMES

Teachers in SERI and Tusome described the progress of students enthusiastically and explicitly (see **Quote 11** and **Quote 12**).

QUOTE 11.
A veteran teacher expresses appreciation

"Since I started teaching, it's the best thing to happen to teaching in 28 years. The government is really in touch with what we wanted. After one year, all the pupils know how to read."

—Head Teacher, Tusome

QUOTE 12.
Happy teachers

"The kids are learning. It never matters how they learn. I see them learning in a good way. I see them progressing, this is what I liked. These are my kids. It really makes me happy they are learning fast. This is what I like."

—Teacher, SERI

And those supporting classroom teachers saw the changes too (see **Quote 13**).

QUOTE 13.
Colleagues see changes in teachers

> ***"Students can now do better and therefore teachers are more proud of their profession and ability to deliver with the [EQUIP-T] package. It has changed attitudes of teachers. Initially, teachers were not keen to teach standards 1 to 4—classes are too big and they didn't know how to make aids. Now they're confident with songs and games associated with lower grades."***
>
> —Meeting Facilitator, EQUIP-T

BOOKS AND LEARNING MATERIALS MADE IT EASIER FOR TEACHERS TO ENGAGE STUDENTS

At their core, these programs aim to increase children's interaction with print so they become better readers and writers. Teachers commented on how the program instructional materials better engaged children and kept their interest (see **Quotes 14 and 15**).

QUOTE 14.
Engaging materials

> ***"I like the books. When I'm away [from the classroom], they read the books and compete on reading. [They] enjoy the stories very much, the pictures are real, it brings their interest."***
>
> —Teacher, Tusome

QUOTE 15.
Increased student interest

> ***"It has brought out very good change. Because, before, with the government books it was hard for children to learn. They were not getting what they needed. Now, teachers have new techniques. Before, students were not very interested. Now they are interested. They have techniques for sounds and blending. Those are very effective."***
>
> —Teacher, SERI

SUMMARY OF QUALITATIVE FINDINGS ON INSTRUCTIONAL PRACTICE

1. Students were more active in their learning.
2. Instruction showed students the relationships between sounds and letters.
3. Teachers monitored progress and adjusted instruction.
4. Teachers are motivated because they see how their instruction leads to positive student learning outcomes.
5. Books and learning materials make it easier for teachers to engage students.

Implications

Combining our descriptive and qualitative analyses, we found five different elements that were essential to the instructional practice investigated for the Learning at Scale study. Based on our findings on teacher practice, we recommend that programs consider the following adaptations to their design and implementation.

Instruction should show students the **relationship between letters and sounds**, systematically and explicitly.

Most class time should be devoted to the **teaching of reading**, focused on skills such as print concepts, letter knowledge, decoding, comprehension, and blending.

Instructional time in class should be maximized with **students engaging with accessible reading materials.**

Direct instruction with whole classes together can be effective when students are active. Several methods, including the gradual-release model ("I do, we do, you do"), can be used to encourage student participation.

Active students allow teachers to monitor learning and adjust their instruction accordingly. When students demonstrate their learning, teachers are motivated.

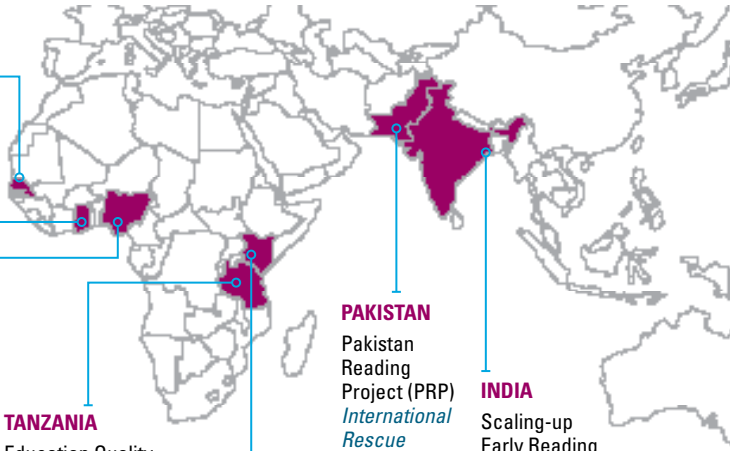
Learning at Scale Study Background

Although the number of successful foundational literacy programs is growing, relatively few have demonstrated impact at large scale. The Learning at Scale study was designed to identify existing programs with demonstrated impact on basic skills at scale and to conduct in-depth investigations of these programs to determine what makes them successful.[2]

After an extensive search, we identified eight of the most effective large-scale education programs in LMICs for inclusion in this study, as shown in **Figure 8**.

FIGURE8.
Selected programs for inclusion in Learning at Scale

Lead implementer



SENEGAL
Lecture Pour Tous (LPT)
Chemonics International

GHANA
Partnership for Education: Learning (Ghana Learning)
FHI 360

NIGERIA
Northern Education Initiative Plus (NEI Plus)
Creative Associates

TANZANIA
Education Quality Improvement Program in Tanzania (EQUIP-T)
Cambridge Education / Mott MacDonald

KENYA
Tusome Early Grade Reading Activity (Tusome)
RTI International[3]

PAKISTAN
Pakistan Reading Project (PRP)
International Rescue Committee (IRC)

INDIA
Scaling-up Early Reading Intervention (SERI)
Room to Read

Read India
Pratham

With demand for information about how to implement effective interventions at large scale at an all-time high, this brief is designed to provide preliminary findings from our study to date. Given that complete data could not be collected from all eight programs due to COVID-19 school closures, the findings and implications based on analyses of the initial primary data collected are preliminary and must be cautiously interpreted until the final data collections can occur, and the results can be analyzed for all programs.

Authored by: Dr. Jonathan Stern, Dr. Margaret Dubeck, Dr. Matthew Jukes & Dr. Benjamin Piper

Tell us what you think of our guide!

Take a survey

2 This research is being led by RTI International and is part of the Center for Global Development (CGD) education research consortium, funded by the Bill and Melinda Gates Foundation.

3 RTI International was the lead research implementer of Learning at Scale and one of the programs (Tusome) was implemented by RTI. Given this conflict of interest, final selection of the Learning at Scale programs was determined by an independent advisory committee. RTI established clear mitigation procedures that separated data collection, analysis, and writing of the Tusome results from the researchers involved in the program.